

project WEB


fall
2000

Connecting Projects WILD, WET and Learning Tree in New Hampshire

Your Personal Connection

Lying on my back on the top of a knoll on a fall day was one of my favorite activities as a child. I would watch as thousands of hawks formed huge kettles in the sky. As a child growing up, my sense of place revolved around the 160 acres of land just beyond my backyard. In today's world, understanding the place we live may not be as simple as it was in years gone by, although developing a sense of place is an important component of our learning and growing process.

How much do your students know about the place they live? Do they know the trees, plants and animals that share their community? Are they aware of how historical use of the land has shaped what it is today? What is their personal connection to the place they live?

We encourage you to explore the area where you live and hope this issue of *Project WEB* will get you thinking about your own sense of place. 

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Bringing a "Sense of Place" Into Conservation Education

BY CATHERINE OWEN

A new piece of jargon has entered the environmental education lexicon: "sense of place." I've seen this phrase used meaningfully in the writings of David Orr, Tony Hiss and Scott Russell Sanders, and I've seen it flung around carelessly in home decorating magazines. After much reading and practice, however, I've realized that the concept of sense of place can be applied in conservation education to engender a set of values that foster ecological sustainability.

Engagement in the ethical dimensions of environmental issues is an

uncomfortable task for many scientists. Our training and our psychological propensities often dictate that we present "just the facts" to convince our audience of the environmental crises we face today. To persuade people that a species or ecosystem has value, we typically explain the important ecological, economic and evolutionary connections that exist between humans and non-human elements of the natural world. Despite their intellectual understanding of these connections, many people are still unwilling to adopt more ecologically sustainable behavior. Affecting the value systems responsible for this behavior without "telling people what to do" presents a difficult dilemma.

Place-based education may present a solution to that dilemma. This approach provides a learning experience that can affect values by allowing students to discover, independently, their own personal connections to a place. The stronger those connections



"Getting to know home is the most human and necessary of occupations. To give that power of observation to students is to give them something of infinite value and importance - something to do for the rest of their lives"

- Ann Zwinger

INTO THE FIELD:
A GUIDE TO LOCALLY
FOCUSED TEACHING



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New Hampshire
Fish & Game
Department

SENSE OF PLACE *continued on page 2*

become, the greater the students' "sense of place" and the deeper their commitment to careful stewardship of that place.

Place, by itself, is a nondescript, not particularly useful term, but in this context it means the interactions among all the human and non-human elements of a specific location over time. The study of place is reminiscent of bioregional studies, and some scholars are calling it the "new localism." To my mind, it is environment and community, nature and culture, considered together. Place-based education and research are necessarily interdisciplinary, melding arenas in the natural and social sciences, arts and humanities.

In the study of a place, students are asked to describe carefully the topography, buildings, hydrology, soils, human artifacts, species composition, spatial patterns, etc., of

a specific site. They then try to relate and explain their observations; in essence, they are trying to unravel the mystery of how the area came to be the way it is today, and what it will be like in the future. An ecologist may incorporate place-based ideas into her forest ecology class, for example, by asking students to determine not only how the soils and species composition of a woodland have changed over time, but why, including the human elements of change. The past uses of the site, by all species, and the economic and

social forces involved would be discussed. The students would continue to investigate the site's socioeconomic role with an historian, its archeological artifacts and Native American use with an anthropologist, its aesthetics with an artist, its personal appeal with a creative writing teacher, and more. The students develop an understanding of the forest as a whole, and of humans as truly a part of the natural world.

The next step is to learn how to take action, to become good stewards, to become "inhabitants" who care about their place, rather than mere "residents," to paraphrase David Orr (1992). The numerous "campus ecology" programs around the country attest that this part of place-based education is already happening.

As they become true inhabitants of their place, people discover their own personal connections to it; they hear stories about the people who built the stone wall or the old shed, they find special spots where they

like to sit and talk, they encounter intriguing plants or animals. And while they unravel the mysteries of the place and learn to care for it



ROBERT P. LITTLE MIDDLE SCHOOL PHOTOS

Students getting to know their schoolyard through Project Learning Tree activities.

Fellowships

The ORION SOCIETY'S "Stories in the Land" teaching fellowships help teachers foster an education of place through the study of local landscapes and histories,




the reading of regional literature, and encouraging creative student responses to their home communities. The yearlong fellowships provide \$1,000 stipends to elementary and secondary teachers. To request application materials, available in late spring, write to: Stories in the Land Teaching Fellowships, The Orion Society, 195 Main St., Great Barrington, MA 01230.

www.orionsociety.org

actively, they improve their observational powers, their critical thinking skills and their practical abilities, and they experience the social, psychological and physiological benefits of being outside. Place-based education offers multi-sensory opportunities and interdisciplinary-based reasons to love a piece of the natural world. This approach may help instill a set of values that will create a truly sustainable society.

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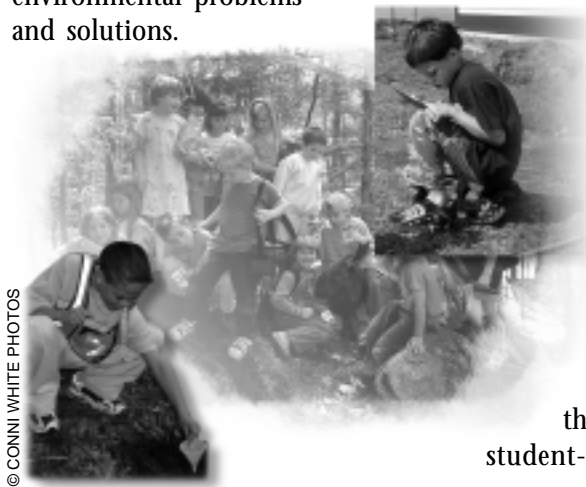
(This editorial was originally printed in the Ecological Society of America NewSource, NEWS 69, February 2000.) 

The Role of Place-based Learning in Education Reform

Place-Based Learning:

- ✓ Prepares students to interpret world issues through the study of local situations.
- ✓ Uses the study of place as the primary organizing principle to integrate and strengthen the school curriculum.
- ✓ Provides groundwork on which to overlay the big-picture concepts of cycles and communities, diversity and change, and environmental problems and solutions.

- ✓ Investigates the layers that make up communities: biological, cultural, historical, geological, artistic and inspirational.
- ✓ Is an interdisciplinary, educational strategy that fully acquaints students with all aspects of their home ground.
- ✓ Is based in children's inherent fascination with the immediate and involves direct sensory experiences
- ✓ Is a tried and true approach addressed by Thoreau, Emerson, Leopold, and more recently Joseph Cornell.
- ✓ Promotes better observation and critical thinking skills by engaging students in problem solving learning that is hands-on, real-life, and student-driven.



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RECOMMENDED READING FROM NEW ENGLAND AUTHORS:

John Elder, *Stories in the Land: A Place Based Environmental Education Anthology* (Orion Society Nature Literacy Series)

Clare Walker Leslie, John Tallmadge, and Tom Wessels, *Into the Field: A Guide to Locally Focused Teaching* (Orion Society Nature Literacy Series)

John H. Mitchell, *Ceremonial Time: Fifteen Thousand Years on One Square Mile*, (Warner Books)

David Sobel, *Beyond Ecophobia* (Orion Society Nature Literacy Series)

David Sobel, *Children's Special Places* (Zephyr Press)

David Sobel, *Mapmaking with Children: Place Based Education for the Elementary Years*

Tom Wessels, *Reading the Forested Landscape* (Countryman Press)

Activities Related to Articles in This Issue

The following **Project WET** activities allow students to explore the immediate environment of the school or their home.

Students explore their school grounds and collect data to understand how water flows over it in **Rainy-Day Hike**.

Stream Sense offers students a chance to use their five senses to discover the wonder of a local stream. Many educators pair this activity with the **Water Log** activity.

Through **Life in the Fast Lane**, students discover the wonderful world of temporary wetlands in their own backyard.

Use **Project WILD** to support your exploration of the school and home environment.

Students identify the components of habitat using a map and exploring their surroundings in **Habitrack**.

Microtrek Treasure Hunt allows students to explore how humans and wildlife share environments as they go outside on a "treasure hunt" for wildlife.

Using questionnaires students generalize that each habitat has characteristic life forms and suggest ways that the environment affects the life forms that occupy it in **Urban Nature Search**.

Project Learning Tree suggests:

Study how human attitudes, values, and behaviors toward the environment can change over time in **In The Good Old Days**. This activity studies the writings of men and women who have shaped the way people think about the environment.

Our neighborhoods, communities, and state have changed a great deal in 100 years, and even in the past 10 years. In the activity **Did You Notice?**, students are encouraged to find ways to improve their communities by making positive environmental changes.

PROJECT WET Update

While PROJECT WET continues to reach out to educators with its fabulous Curriculum and Activity Guides, the program is also working on new water education modules and student booklets and new initiatives, such as the first across-the-nation water festival.

Over 300 Students Celebrate "Make A Splash with Project WET" Day!

Over 300 first through third grade students within the Kearsarge District participated in "Make A Splash with Project WET" Day on Friday, September 22, 2000. NEW HAMPSHIRE PROJECT WET and the LAKE SUNAPEE PROTECTIVE ASSOCIATION, with the national co-sponsors, PROJECT WET U.S.A. and the PERRIER GROUP OF AMERICA, co-hosted the one-day educational water festival. This event occurred simultaneously with festivals in 49 other states and the District of Columbia!

Students discovered many exciting things about water and water protection while participating in engaging activities. Throughout the course of the day, students could be found simulating the movement of water through the earth, interacting with models to learn about water pollution and protection, learning about local wildlife that depend on New Hampshire water bodies, and much more. In addition, on-line games and activities at

www.projectwet.org helped reinforce the concepts learned at the festival. (We invite you to view this site as well.)

PROJECT WET intends for "Make A Splash with Project WET Day" to become an annual event. Look for more information about the 2001 festival in the spring issue.

New Materials Available from PROJECT WET

Conserve Water Educators' Guide

Conserve Water Educators' Guide focuses on helping people understand that water is a limited resource. It is for educators of students in grades

six through twelve. The module contains innovative activities where students simulate the management of the water resources of a community; create a Xeriscape landscape; or perform in a

turn of the century play to learn early lessons in water conservation. In addition, this module contains real-life case studies that put students in the position of an ice cream manufacturer trying to keep millions of gallons frozen or of a space shuttle engineering team that determines the role water will play on the voyage. Activities and case studies were designed to be thought-provoking and to challenge students to exercise decision-making and higher level thinking skills.

Conserve Water Educators' Guide is available for purchase (\$18.95) by contacting NATIONAL PROJECT WET at 406-994-5392 or on the web at www.montana.edu/wwwwater/publications/index.html



Students discovered what a spring is through models and the reading of a mythical legend.

Spring Waters: Gathering Places

Early people thought that springs were a gift from the earth. This book contains five beautifully illustrated stories and myths that chronicle the use of spring waters through time. Games and investigations are included that lead readers to an understanding of ground water, springs, and the importance of healthy water for healthy people everywhere.

Spring Waters: Gathering Places will be provided to all students who participate in the "Make A Splash with Project WET" day. It will then be available for purchase (price TBA) by contacting NATIONAL PROJECT WET at 406-994-5392 or on the web at www.montana.edu/wwwwater/publications/index.html

Development of Healthy Water, Healthy People Program

Project WET recently formed a partnership with HACH SCIENTIFIC FOUNDATION and formed a new division called *Healthy Water, Healthy People* that will focus on water quality education and testing. The program is presently working on a water quality education guide for grades 6-12. This guide and its training workshops will be available in 2002.



"Returning to our roots will provide untold happy benefits. It will ground children in a sense of place, a critical construct in developing an environmental ethic. It will provide an impetus for students to want to understand and work on global issues, for they can name off neighbors they will lose if, for example, climate warms."

-Michael Weilbacher

"Renaissance of the Naturalist"

TAPROOT FALL 1992



Sense of Place Inside the School Building

Why is it that, when asked to draw what they think of when they hear the word “environment,” many children produce pictures of scenic mountains, trees, and wildlife, often with a river or lake in the foreground? Why are there never any buildings or vehicles in their drawings? And most importantly, how can we help students

recognize the environment as their surroundings whether they live in a rural, suburban, or urban area? The new focus on “sense of place” learning may hold the key to helping students understand the environment *as both the natural and the built world.*

An educator interested in a “sense of place” educational focus should remember to include not only the natural places on the school grounds, such as streams, forests, or wetlands, but also the school building itself. The physical structure and its daily operations offer a perfect opportunity for students to study

INSIDE SCHOOL *continued on page 8*

PROJECT WILD Update

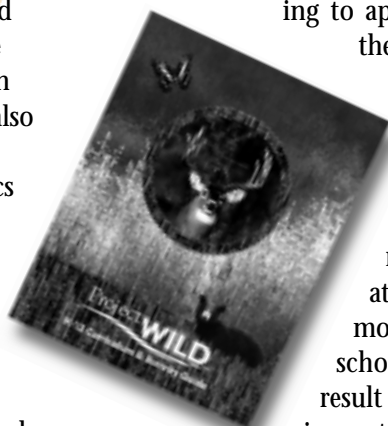
New And Revised Guides

Those of you taking a WILD workshop this year will notice something new and different. Project WILD has been revised and updated in response to education reform. Both the conceptual framework and individual activities have been revised to help meet national education standards and assessment criteria. The background information found in the activities also has been revised to provide current statistics and updated factual information.

The new guides have been organized into three sections: 1) Ecological Knowledge; 2) Social and Political Knowledge; and 3) Sustaining Fish and Wildlife Resources. The three major sections reflect a development structure in that the activities in the Ecological Knowledge section frequently correlate to elementary school curriculum requirements, the Social and Political Knowledge section often correlates

to middle school needs, and activities in the Sustaining Fish and Wildlife Resources section are more likely to be appropriate for high school students. The activities within each topic are ordered by complexity, moving the student from basic conceptual understanding to application. Therefore, the educator may find the activities in the beginning of a topic area more applicable to elementary classrooms, while those at the end may be more suited for high school students. The result is an overall spiral-ing pattern of development as educators move through the various sections and topic areas.

If you have used Project WILD before you will find much that is familiar, as well as some new activities. Eighteen new activities have been added to teach about topics such as biodiversity and wildlife management.



PROJECT LEARNING TREE Update

Project Learning Tree's curriculum materials continue to be revised and expanded to address the changing needs of today's teachers. The *Pre K-8 Activity Guide* is in the early stages of revision that will include improvements to many activities and the addition of new activities focused on the role of energy in society. At the high school level, three new modules are under development and will be released within the next two years. These modules address the issues of biodiversity, world forests and built communities.

The new communities module is especially relevant to nurturing a sense of place within students. The overall goal for this module is to increase environmental literacy and awareness through the development of a sense of place. It will explore the many facets of our communities, dealing with topics as varied as growth, energy use, water quality, transportation, and economics. To be titled *Exploring Environmental Issues in the Places We Live*, this module will help students examine the relationships among persons, communities and environments that define our neighborhoods. An extensive web component will accompany this module.

ANNOUNCEMENTS

Win \$150 for you and your school!

The NH WATER POLLUTION CONTROL ASSOCIATION announces its 2001 *Clean Water Week Poster Contest*. Schools of K-6 students are invited to submit *up to one poster per grade* (no larger than 22"x28") on the theme "Clean Water is Everyone's Responsibility." Any materials may be used to create the posters, which must be received by February 9, 2001; send to Edward Rushbrook, Dufresne Henry Inc., 175 Canal Street, Manchester, NH 03101. First prize is \$150 for both the student and the school. For more information, contact Ed Rushbrook at 603-669-8672.

Eleanor Roosevelt Teacher Fellowships

Available to female K-12 public school teachers for professional development in gender equity and math, science, and/or technology, including college courses, seminars, and professional workshops. The fellowship also supports implementation of an innovative curriculum project to encourage girls' interest and achievement in math, science, and/or technology.

The application is available online. Deadline: January 10, 2001.

www.aauw.org/3000/fdnfelgra/ertf.html

Free Posters

The following organizations offer posters on environmental themes that are free/can be downloaded:

- ENVIRONMENTAL PROTECTION AGENCY'S NATIONAL SERVICE CENTER FOR ENVIRONMENTAL PUBLICATIONS - Multiple Topics (search under "poster") www.epa.gov/ncepihom/catalog.html (Free resources)

- THE LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT - Energy Conservation

www.msdlouky.org/insidemsd/poster1.htm (Free to download in pdf format)

New England Green School Grants

The CENTER FOR ENVIRONMENTAL EDUCATION is awarding \$80,000 per year in small grants to schools in the six New England states for the 2000-2001 and 2001-2002 school years. Deadlines are November 1 (for the Fall cycle) and March 15 (for the Spring cycle). For more

information, visit www.cee-ane.org/Grants/index.html

Using and Developing School Nature Areas Workshop

March 29 and April 10, 2001, the BEAVER BROOK ASSOCIATION in Hollis will host a two-part workshop on using and developing school nature areas. Instructors: NH Audubon's Ruth Smith, and Marilyn Wyzga of Project HOME. Contact Tracy Beasley at Beaver Brook, 465-7787.

New Wildlife Kits Available

Something new is growing at the NH FISH AND GAME DEPARTMENT and we need you to help it hop, slither, crawl and fly to your classrooms. Six new Wildlife Kits have been developed in partnership with UNH COOPERATIVE EXTENSION to help your students learn about the wildlife and habitats of New Hampshire.

TOPICS

BEST FOR...

- Mammals K-3
- Birds K-3
- Spiders and Insects K-3
- NH Trees & Forests 2-6
- Wetlands & Water Quality 4-6
- NH Landscapes; Communities, Watersheds and Ecoregions 4-8

Engage your students with puppets, skeletons, track molds, field guides, books, posters, puzzles, tools and more! Each kit comes with a suggested curriculum unit utilizing activities from PROJECT LEARNING TREE, WET and WILD. All activities are matched to NH State Standards and teach skills such as observing, mapping, graphing, researching, comparing, classifying, and problem solving. To check out a kit, contact the NH FISH AND GAME DEPARTMENT at (603) 271-3211.

ON THE H.O.M.E. FRONT

How Does Your Habitat Grow?

Results of the HOME Survey

BY MARILYN WYZGA

Schoolyard habitats provide a multitude of place-based learning opportunities. Surveying wildlife activity and mapping details of the school grounds supply students with an intimate experience of this landscape. Since 1991, we've regularly modified the Project HOME program to increase schools' success with enhancing habitats and creating outdoor learning areas.

In that spirit, last spring we surveyed all the schools that have participated in Project HOME since its inception. Conni White, a very capable intern from Antioch/New England Graduate School, developed and conducted the survey. The process included a written questionnaire, phone surveys, and site visits.

We received an encouraging 75% response rate. Of the 63 schools that responded, half have active habitat areas. The most popular projects are butterfly gardens, nest boxes and nature trails, followed by planting for cover. For the projects' primary impacts on students, teachers are seeing marked improvements in cooperative learning. They've also noted increases in integrated learning, citizenship, putting book learning into action,

and understanding wildlife. The two major stumbling blocks that prevent many schools from developing active projects continue to be curriculum demands and money.

Your colleagues shared these thoughts: "This project will spread into your whole curricula and you will find many connections unthought of when you began." "Student investment is never higher than when connected to nature." "A master plan, with annual review for maintenance, is a critical component." "During our [pond] project, I looked around and the 'help' was from all parts of our school community." "I was amazed at how interested the kids were in the 'minutia' of the schoolyard." "Team – team – team! Try to broaden the project and extend ownership." "It was important to be respectful of everyone's opinions, and there were many." "Start small, set priorities, and work hard to build community relations."

Over the next year, we'll be using this information to modify the Project HOME program and strengthen its impact,

to better serve you in providing place-based education opportunities for your students.

On another front, we're developing a water garden at the Fish and Game headquarters in Concord to use as a demonstration area and teaching site. The water garden is composed of two, preformed shells with a small circulating pump and waterfall, planted with native aquatics including water lilies (*Nymphaea odorata*), blue flag iris (*iris versicolor*), and arrowhead (*sagittaria latifolia*). The area surrounding the ponds was sewn with a native wildflower mix, which will gradually be replaced with perennials to benefit birds and butterflies. We plan to create a low maintenance habitat area and will gladly share our ongoing experiences with you. It was satisfying to see – before we had even finished the project – two green frogs and an array of insects had taken up residence in the garden. ■



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Tom Estill's middle school students in Lyme develop a pond habitat complete with plants to attract butterflies.

environmental sustainability and economics, determine how resources are used within the school, and explore ways that the building's health and efficiency could be improved.

The following are some examples of activities and audits that students can conduct to evaluate their school's

sustainability. Curricula and resources that offer activities concerning the topics are listed in parentheses.

- **Water efficiency:** How much water is used in the school cafeteria, in the bathrooms, in labs and classrooms, and on the sports fields? (PROJECT WET *Conserve Water Educators' Guide*,

www.enviroaction.org)

- **Water quality:** Have any chemical or bacteriological water testing results come back positive? Do any of them exceed the federal drinking water standards? (Every non-transient public water system [including schools with their own wells] is required to test their well for certain contaminants.) (WATER

ENVIRONMENT FEDERATION [www.wef.org], www.epa.gov/safewater/kids/index.html)

- **Indoor air quality:** Have tests ever been done (e.g. radon)? How is the school ventilated? (PROJECT LEARNING TREE, www.epa.gov/iaq/schools/)

- **Energy efficiency:** How does the school heat itself? How drafty is the building? Are lights, computers, copiers left on unnecessarily? (PROJECT


LEARNING TREE, GOVERNOR'S ENERGY OFFICE, www.enviroaction.org)

- **Trash production:** How much trash is produced each week? How much paper/glass/plastic is recycled? Are appropriate cafeteria food wastes composted? (PROJECT LEARNING TREE, GOVERNOR'S OFFICE OF RECYCLING, www.enviroaction.org)

- **Chemical use:** What kinds of chemicals are used for cleaning the school, for maintaining the lawn, in the laboratories, in copiers and printers? How are they disposed of? Are there alternatives that could be used instead? (NHDES POLLUTION

The new focus on "sense of place" learning may hold the key to helping students understand the environment...

PREVENTION AND HOUSEHOLD HAZARDOUS WASTE PROGRAM, www.enviroaction.org)

- **Purchasing practices:** Do items that are purchased contain post-consumer recycled materials (e.g. paper for copiers and printers, toner cartridges)? Is packaging minimized? Are chemicals purchased in small quantities so that they are used up in a timely manner and don't sit around? (PROJECT LEARNING TREE, GOVERNOR'S OFFICE OF RECYCLING) 

Project WILD receives Federal financial assistance from the US Fish and Wildlife Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972. The US Department of the Interior and its bureaus prohibit discrimination on the basis of race, color, national origin, age, disability, religion or sex (in educational programs). If you believe that you have been discriminated against in any program, activity, or facility, or if you desire additional information please write to:

The US Fish and Wildlife Service
Office for Diversity and Civil Rights Programs – External Affairs
4040 N. Fairfax Drive, Suite 130
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